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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

CORRECTED
VERSION



Applicant's or agent's file reference 3267PTWO/er	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/06072	International filing date (day/month/year) 10.06.2003	Priority date (day/month/year) 10.06.2002
International Patent Classification (IPC) or both national classification and IPC A23C7/04		
Applicant DOX-AL ITALIA S.P.A. et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☒ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 08.01.2004	Date of completion of this report 22.10.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Georgopoulos, N Telephone No. +49 89 2399-2634 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/06072

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-27 as originally filed

Claims, Numbers

1-26 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/06072**

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-8 .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3, 4, 7
	No: Claims	1, 2, 5, 6, 8
Inventive step (IS)	Yes: Claims	
	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/06072

Item IV

- 1 The International Preliminary Examining Authority agrees with the objection of the International Searching Authority as to lack of unity of the present application. In said application the following separate inventions are claimed:
 - a/ First invention: present claims 1-8
Membrane for decontamination of liquid foods consisting of a biocompatible polymer in the form of woven or non-woven fabric and antibodies specific for the contaminants, said antibodies being covalently linked to said membrane.
 - b/ Second invention: present claims 9-22
Decontamination process of liquid foods comprising contacting said foods with a membrane consisting of a biocompatible polymer and antibodies specific for the contaminants, wherein said antibodies are covalently linked to said membrane.
 - c/ Third invention: present claims 23-26
Use of membranes of nylon, cellulose, polyesters, polyacrylates, their derivatives or mixtures thereof and antibodies specific for the contaminants, said antibodies being covalently linked to said membranes, for the decontamination of liquid foods.
- 1.1 The common concept linking together present independent claims 1, 9 and 23 is the provision of efficient and simple decontamination for liquid foods (see also page 3, lines 13-18 of the present description).
The Special Technical Feature (STF) in present independent claim 1 of the first invention is the combination of the biocompatible polymer in the form of woven or non-woven fabric and the antibodies covalently linked to it.
The STF in present independent claim 9 of the second invention is the combination of the biocompatible polymer and the antibodies, which are covalently linked to it.
The STF in present independent claim 23 of the third invention is the combination of nylon, cellulose, polyesters, polyacrylates, their derivatives or mixtures thereof and antibodies covalently linked to them.
- 1.2 The aforementioned independent claims do not have the same STF. Moreover, no further technical features can be distinguished than can be regarded as STF involved in the technical relationship of present independent claims 1, 9 and 23.
For the above reasons, the application lacks unity. Each of the above listed inventions is characterised by its own technical features.
- 1.3 The International Preliminary Examining Authority shall carry out examination only for

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/06072

the first of the aforementioned inventions, i.e. for present claims 1-8.

Item V

2 Reference is made to the following documents:

D1: DATABASE WPI Section Ch, Week 199343 Derwent Publications Ltd., London, GB; Class B04, AN 1993-340452 XP002253881 -& JP 05 249116 A (UNITIKA LTD), 28 September 1993 (1993-09-28)

D2: US-A-4 693 985

D3: US-A-4 357 311

D4: WO-A-96 27614

D5: EP-A-0 246 643

D6: US-A-5 573 921

D7: ABOUZIED M M ET AL: "Simultaneous screening of fumonisin B1, aflatoxin B1, and zearalenone by line immunoblot: a computer-assisted multianalyte assay system" FSTA, XP002223968

D8: JUNG R ET AL: "Strip ELISA for detection of staphylococcal enterotoxins in culture supernatants and foods" FSTA, XP002223990

D9: LOSSO J N ET AL: "Removal of bovine serum albumin from cow's milk using chicken egg-yolk antibodies immobilized on chitosan gel" FSTA, XP002223969

D10: US-A-5 998 222

3 The subject-matter of present claims 1, 2, 5, 6 and 8 is not novel (Art.33 (2) PCT), for the following reasons:

3.1 D1 anticipates the subject-matter of present claim 1 (see D1), D2 anticipates the subject-matter of present claims 1 and 8 (see column 3, line 9 - column 4, line 11; claims 1, 5, 6, 14, 15, 25, 28, 29, 38 of D2), D3 anticipates the subject-matter of present claims 1 and 2 (see column 1, line 6-19; claims 1, 2, 6 and 7 of D3), D4 anticipates the subject-matter of present claims 1 and 2 (see page 4, lines 31-35; page 5, lines 5-10; page 7; lines 30-34; claims 1, 3 and 13 of D4), D5 anticipates the subject-matter of present claims 1 and 2 (see page 2, lines 1-4; page 3, lines 36-39; claims 1, 6, 8, 9; figures 1a and 1b of D5), D6 anticipates the subject-matter of present claim 1 (see column 5, lines 13-18; claims 1, 3, 4, 10 and 13 of D6), D7 anticipates the subject-matter of present claims 1, 2, 5 and 6 (see abstract of D7), D8 anticipates the subject-matter of present claims 1, 2, 5 and 8 (see abstract of D8) and D9 anticipates the subject-matter of present claims 1 and 8 (see abstract of D9).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/06072

- 4 It does not appear that present dependent claims 4, 5, and 7 contain technical features that would establish novelty and / or inventive step (Art.33 (3) PCT) for the subject-matter of present independent claim 1 in the light of the combination D2+D10 (see column 3, line 9 - column 4, line 11 and claims 1, 5, 6, 14, 15, 25, 28, 29, 38 of D2 as well as column 3, line 64 - column 4, line 11; examples 3 and 4 and claims 1 and 10 of D10).
- 5 The subject-matter of present independent claims 1-8 is susceptible of industrial application in the field of food industry (Art.33 (4) PCT).
- 6 The following typing errors have not been corrected:
 - a/ "immunoglobulins" should have replaced "immunoglubulins" (see page 2, line 10);
 - b/ "polypropylene" should have replaced "polypropilene" (see claim 2);
 - c/ "membrane" should have replaced "memebrane" (see claim 2);
 - d/ the numeral "2" in claim 3 should have been deleted; and
 - e/ the blank space on page 23 should also have been deleted.
- 7 It appears that the wording "liquid foods" is more appropriate than the wording "food liquids" used throughout the present description and claims (see also D10).